1. Under Well-Established Antitrust Principles Declaring Tying Arrangements Per Se Unlawful, Bundling of the Local Loop Is Contrary to the Public Interest

The U.S. Supreme Court recently reiterated its long-standing definition of tying arrangements as "agreement[s] by a party to sell one product on the condition that the buyer also purchase a different (or tied) product. . ." *Eastman Kodak Co. v. Image Tech. Serv., Inc.*, 112 S.Ct. 2072, 2079 (1992), *quoting Northern Pac. R. Co. v. United States*, 356 U.S. 1, 5-6 (1958). Bundling of the local loop constitutes a tying arrangement because it forces buyers such as MFS to purchase unwanted products (the port and local usage) in order to obtain a wanted product (the loop). As the Supreme Court held in *Eastman Kodak*, a tying arrangement "violates § 1 of the Sherman Act if the seller has 'appreciable economic power' in the tying product market and if the arrangement affects a substantial volume of commerce in the tied market." *Id.*

Tying arrangements that meet these criteria are among the handful of practices that are *per se* unlawful under the antitrust laws because they "pose an unacceptable risk of stifling competition." *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 9 (1984). Indeed, in *Northern Pac. R. Co. v. United States*, 356 U.S. 1, 5 (1958), the U.S. Supreme Court declared that tying arrangements were one of only four types of practices

> which because of their pernicious effect on competition and lack of any redeeming virtue are conclusively presumed to be unreason-

---

[17](...continued)
adopt regulatory policies that parallel the goals of the antitrust laws and thereby prevent antitrust violations from occurring in the future, without regard to whether they have yet been committed. In the FCC's determination of the "public interest" standard of the Act, there is no doubt that competition is a relevant factor. *Mid-Texas Communications Systems v. AT&T*, 615 F.2d 1372, 1379 (5th Cir.), *cert. denied*, 449 U.S. 912 (1980) (citing *F.C.C. v. RCA Communications, Inc.*, 246 U.S. 86, 94 (1953)).

> able and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use.

See id. at 6 (tying arrangements are *per se* unlawful because "competition on the merits with respect to the tied product is inevitably curbed" and "[t]hey deny competitors free access to the market for the tied product, not because the party imposing the tying requirements has a better product or a lower price but because of his power or leverage in another market"); *Standard Oil Co. v. United States,* 337 U.S. 293, 305-06 (1949) ("tying agreements serve hardly any purpose beyond the suppression of competition").

To qualify for "*per se* unlawful" treatment, tying arrangements must meet four criteria: (1) the existence of two separate products; (2) an agreement conditioning purchase of one of the products (the "tying" product) upon purchase of the other product (the "tied" product); (3) the seller's possession of sufficient economic power in the tying product market to restrain competition in the tied product market; and (4) a not insubstantial effect upon interstate commerce. *E.g., Service and Training, Inc. v. Data General Corp.,* 963 F.2d 680, 683 (4th Cir. 1992); *Tic-X-Press, Inc. v. Omni Promoters Co.,* 815 F.2d 1407, 1414 (11th Cir. 1987); *see Eastman Kodak, supra,* 112 S.Ct at 2079. Each of these four elements of a *per se* unlawful tying arrangement is present with respect to the LECs' failure to unbundle the local loop.

a. The Loop Is a Product Separate from the Port and Local Service

In determining whether two separate products exist, the Commission must look to whether there exist two products that are "distinguishable in the eyes of buyers." *Jefferson Parish, supra,* 466 U.S. at 19; *see Faulkner Advertising Associates, Inc. v. Nissan Motor Corp.,* 905 F.2d 769, 774 (4th Cir. 1990) (two products found because from "perspective" of many

buyers, they were "distinct"). A functional linkage between the two products does not make them a single product. As the U.S. Supreme Court observed in *Eastman Kodak, supra,* 112 S.Ct. at 2080, *quoting Jefferson Parish, supra,* 466 U.S. at 19 n.30, "[w]e have often found arrangements involving functionally linked products at least one of which is useless without the other to be prohibited tying devices"; *see Thompson v. Metropolitan Multi-List, Inc.*, 934 F.2d 1566, 1575 n.6 (11th Cir. 1991) ("functional analysis is irrelevant to the question of whether there are, or are not, separate markets").

Therefore, the question is not whether buyers might want to purchase one product without the other, but whether they "may wish to purchase [the products] separately from different suppliers." *D.O. McComb & Sons, Inc. v. Memory Gardens Management Corp.*, 736 F.Supp. 952, 957 (N.D. Ind. 1990). If the products can be "provided and selected separately, they can be characterized as two separate products." *Drinkwine v. Federated Publications, Inc.* 780 F.2d 735, 741 (9th Cir. 1985). Moreover, as the U.S. Court of Appeals for the Seventh Circuit has observed, "[a]n indicator of whether a separate demand exists for a product is whether consumers make specific requests." *Collins v. Associated Pathologists, Ltd.*, 844 F.2d 473, 477 (7th Cir. 1988).

Under these standards, the loop is plainly a product distinct from the switching port and local service. MFS, as a large consumer[18] of loop services, has made formal filings in several states requesting that it be allowed to purchase an unbundled loop from the dominant LEC.

---

[18] A "consumer" need not be an end user, but may be a reseller. In *Eastman Kodak, supra,* the "consumers" were providers of repair services for Kodak's photocopiers who sought Kodak's parts for use in repairing and reconditioning Kodak equipment for end users. MFS' spent millions of dollars in 1994 on purchases from Tier 1 LECs of packages containing loop services.

Other competitive local service providers have made similar requests. MFS and the other carriers would provide their own switching ports and local service, if not forced by the LECs to buy them in bundles with the loop. MFS has made direct requests of several LECs that it be permitted to purchase a loop without a port, but almost all such requests have been reflexively denied. The only LECs that have unbundled the loop so far have done so after the New York PSC made such unbundling mandatory.[19] There are no technical or economic impediments to unbundling the local loop. Such unbundling has been ordered in New York, Michigan and Illinois, and has been found feasible by all the affected LECs. Therefore, the "two products" element is clearly present here. Unbundling of these two distinct products warrants definitive action from the Commission.

b. The LECs Have "Conditioned" the Purchase of the Local Loop Upon the Purchase of Unwanted Products

The element of "conditioning" is inherent in the LECs' tariff filings which permit purchase of the loop exclusively on a bundled basis. By failing to file a tariff unbundling the loop, the LECs deliberately tie their own hands and preclude themselves from selling the loop without the port. Thus, MFS and other would-be purchasers of an unbundled loop cannot lawfully purchase such a product, and MFS' requests that it be sold as an unbundled loop without a port have been uniformly rejected (except in New York).[20] LEC tariffs in fact force,

---

[19] Only New York Telephone was specifically order to file tariffs for unbundled loops. Rochester Telephone did so voluntarily.

[20] For the reasons stated at pp. 9-12, *supra*, voice-grade private lines or special access channels are simply not adequate substitutes for an unbundled loop.

with compulsion of law, MFS and others who need to buy an unbundled loop to purchase the other loop elements as well. This is clearly sufficient to meet the conditioning element of a *per se* unlawful tie in. Indeed, even if the tariff was a mere standard contract lacking the compulsion of law, it would create conditioning. *See Tic-X-Press, supra,* 815 F.2d at 1416-17 (standard contract conditioning lease of arena on use of ticketing agency); *Bell v. Cherokee Aviation Corp.*, 660 F.2d 1123, 1126, 1131 (6th Cir. 1981) (tie-in is "clear on the face of the contract" where contract language called for airplane lessee to purchase "all needed fuel" from lessor); *Bogosian v. Gulf Oil Corp.*, 561 F.2d 434, 452 (3rd Cir. 1977) (service station lease precluded purchase of gasoline other than from lessor); *Mozart Co. v. Mercedes-Benz of North America, Inc.*, 593 F. Supp. 1506, 1516-17 (N.D. Cal. 1984) (dealer franchise agreement required Mercedes dealers to use only Mercedes replacement parts); *United States v. Mercedes-Benz of North America, Inc.*, 517 F. Supp. 1369, 1381-84 (N.D. Cal. 1981) (same); *Anderson Foreign Motors, Inc. v. New England Toyota Distributor, Inc.*, 475 F. Supp. 973, 988 (D. Mass. 1979) ("conditioning of the sale of cars on the purchase of delivery services from [defendant] is manifest in the provision of the dealer franchise agreement, a standard contract" signed with all dealers).

c. The LECs Have Sufficient "Market Power"

While the "market power" element of a *per se* unlawful tying arrangement may be established by a showing that the seller holds a "dominant position" in the market for the tying product, *Times-Picayune Pub. Co. v. United States,* 345 U.S. 594, 611 (1953), the U.S. Supreme Court has explicitly rejected the assertion that such a showing is necessary. *United States Steel Corp. v. Fortner Enterprises, Inc.*, 429 U.S. 610, 619-20 (1977). Rather, "the

question is whether the seller has some advantage not shared by his competitors in the market for the tying product." *Id.* at 620. Thus, the market power element is present where the seller has a large market share or where there are substantial barriers to entry in furnishing the tying product. *See Jefferson Parish, supra,* 466 U.S. at 17; *Thompson, supra,* 934 F.2d at 1577; *Parts and Electric Motors, Inc. v. Sterling Electric, Inc.*, 826 F.2d 712, 720 n.7 (7th Cir. 1987); *Tic-X-Press, supra,* 815 F.2d at 1420.

In this instance, the LECs represent the prototypical case of market power. It should be self-evident that the sunk-cost networks, constructed under circumstances providing an essentially guaranteed rate of return, linking virtually every residence and business in their territories, give the LECs not only a near 100% market share, but also an "advantage not shared by [their] competitors" sufficient to meet this element of a *per se* unlawful tying arrangement. In 1983, the U.S. Court of Appeals for the Seventh Circuit found that "[i]t would not be economically feasible for MCI to duplicate Bell's local distribution facilities (involving millions of miles of cable and line to individual homes and businesses), and regulatory authorization could not be obtained for such an uneconomical duplication." *MCI Comm. Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1133 (7th Cir.), *cert. denied,* 464 U.S. 891 (1983). Technological progress has not yet altered the correctness of that finding. As much as MFS and other local competitors would like to be able to build their own networks throughout their markets, rather than be dependent on the LECs, as shown above, regulatory, permitting and licensing, and

economic factors make such an effort an impossibility[21] for at least the foreseeable future.[22] Therefore, the "market power" element is certainly present here.

d. The Tying Arrangements Affect a "Not Insubstantial" Amount of Interstate Commerce

The "not insubstantial" amount of interstate commerce test is also easily met here. In *Tic-X-Press, supra,* 815 F.2d at 1419-20, the Eleventh Circuit held that this requirement was met when plaintiff lost $10,091.07 in interstate sales as a result of the tying arrangement, citing several other cases finding that this test had been met by interstate commerce of $50,000 or less. Here, MFS estimates that it and its subsidiaries alone have lost millions in switched access revenues as a result of the LECs' tying arrangements.

2. Unbundling of the Local Loop Must Be Accomplished at Prices that Avoid Imposing a "Price Squeeze" Upon Competitors

To ensure that bundling is not replaced with other conduct condemned by the antitrust laws, the Commission must take all steps necessary to ensure that the unbundled loop is priced equitably. If a LEC were to price its unbundled loop so high relative to its rates for local exchange service as to make it impossible for competitors to use the unbundled loop to provide local exchange service at a price competitive with the incumbent LEC, a "price squeeze" would result. The imposition of a "price squeeze" has long been regarded as an illegal monopolistic practice by the courts and the Commission.

---

[21] *See Tic-X-Press, supra,* 815 F.2d at 1420 (plaintiff "and other would-be competitors cannot reasonably be expected to offer the tying product themselves").

[22] Likewise, as shown above, neither the possibility of constructing a "wireless" network nor the fact that cable networks link many residences provide a significant check on the LECs' market power.

The doctrine that such a practice constitutes an illegal price squeeze under the Sherman Act dates at least as far back as Judge Learned Hand's seminal antitrust opinion in *United States v. Aluminum Co. of America ("Alcoa")*, 148 F.2d 416, 437-38 (2d Cir. 1945). There, Alcoa had monopoly power over aluminum ingot, some of which it converted into aluminum sheet and some of which it sold to competitors who converted it into sheet. The court concluded that because the price at which Alcoa sold ingot plus its cost of converting ingot into sheet was greater than the price at which Alcoa sold sheet, the competitors were precluded from competing profitably with Alcoa in the sheet market. The court found Alcoa's pricing strategy to constitute an unlawful use of Alcoa's monopoly power in the ingot market, even though it was not part of an attempt by Alcoa to monopolize the sheet market.

Alcoa provides a useful analogy here. In *Alcoa,* aluminum ingot was a necessary component of producing aluminum sheet. Here, a local telephone loop is a necessary component of producing local exchange service. Alcoa had monopoly power over aluminum ingot. Here, each LEC has monopoly power over the local loop. Alcoa sold aluminum ingot at a price that, when added to the other costs of producing aluminum sheet, was greater than the price at which it sold aluminum sheet, thus forcing competitors buying ingot from Alcoa to sell sheet at a loss if they wanted to match Alcoa's price for sheet. Here, if a LEC that offers an unbundled loop were to price it at a level so high that MFS and other competitors must sell at a loss in order to match the LEC price for local exchange service, a price squeeze would inevitably result.[23]

---

[23] Determining whether a price squeeze has taken place requires economic analysis. The *Alcoa* court applied what has come to be known as the "transfer price" test, one that has been recognized as "a legitimate means of indicating a price squeeze." *Illinois Cities of Bethany v. F.E.R.C.*, 670 F.2d 187, 198 (D.C. Cir. 1981); *accord, Ray v. Indiana & Michigan Elect. Co.*, 606 F. Supp. 757, 776-77 (N.D. (continued...)

Citing *Alcoa,* the Commission consistently has adopted the "goal to avoid potential 'price squeeze[s]' ... consistent with our mandate to consider and protect the public interest." *First Report and Order in Docket No. 80-183,* 89 FCC 2d 1337, 1346 n.17 (1982). The Commission has accordingly framed its orders with care so as to forbid price squeezes. *Id.*; *Petition for Waiver of Section 64.702 of the Commission's Rules (Computer II),* 100 FCC 2d 1057, 1060, 1094 n.66, 1105 (1985) (declaring price squeeze by BOCs an "anticompetitive use of their monopoly control of local exchange facilities"); *Proposed Modification of the Commission's Authorized User Policy,* 90 FCC 2d 1394, 1429 (1982). Therefore, the Commission should be vigilant to ensure that, in unbundling, the LECs do not engage in an anticompetitive price squeeze.

---

[23](...continued)
Ind. 1984). The D.C. Circuit described the transfer price test "adhered to in many antitrust cases" as follows: "[i]f a vertically integrated entity cannot purchase at its own wholesale rates and still realize a profit by selling at its own retail rates, then it can be concluded that the supplier has overcharged its wholesale customers." *Illinois Cities of Bethany, supra,* 670 F.2d at 197; *accord, Ray, supra,* 606 F. Supp. at 776; *see Alcoa, supra,* 146 F.2d at 437; *see also Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry),* 77 FCC 2d 384, 475 (1980) (vertically integrated carrier offering enhanced services absent structural separation must acquire transmission capacity pursuant to same prices, terms, and conditions that carrier offers to competitors); *In the Matter of Petition for Waiver of Section 64.702 of the Commission's Rules (Computer II), supra,* 100 FCC 2d at 1105 (similar).

Alternatively, whether a price squeeze has taken place can be determined by reference to the "comparative rate of return test," one that "asks whether there was a cost based justification for the relationship of the rates in question. If after the wholesale and retail costs are fully allocated, the vertically integrated company's wholesale profit margin was significantly greater than its retail profit margin, an illegal price squeeze probably occurred." *Ray, supra, citing City of Batavia v. F.E.R.C.*, 672 F.2d 64, 90 (D.C. Cir. 1982).

III. COMMISSION ACTION IS NECESSARY TO COMPLEMENT STATE REGULATORY DECISIONS AUTHORIZING LOCAL EXCHANGE COMPETITION

Over the last several years, a number of States have taken action to remove legal and regulatory barriers to competition in the local exchange market. MFS fully expects that other states will likely take similar consumer-oriented action in the near future. With the elimination of the *de jure* local exchange monopoly, these states have created the potential for IXCs and business and residential customers to realize the benefits that competition can provide, including increased customer choice, lower prices, expanded service options and enhanced efficiency.

The public utility commissions of New York, Illinois, Maryland, Michigan and Washington have already authorized new carriers to provide local exchange service in competition with the incumbent LECs. Fourteen other states have adopted legislative or regulatory initiatives that have opened the door for the entry of competitive local exchange providers.

The universal need for unbundled local loops in the competitive marketplace demands the Commission's immediate attention and nationwide policy leadership role. The availability of unbundled loops will enhance customer choice and encourage the more efficient use of telecommunications networks. Consistent with its long-established and highly praised role in promoting competition in telecommunications products and services, the Commission must timely determine that local loop unbundling will serve the public interest and adopt policies and rules that will complement the actions taken by states to foster the development of competition in the local exchange market.

A. The Commission Has Jurisdiction To Resolve Technical And Pricing Issues Related To Local Loop Unbundling

Congress has charged the Commission with the responsibility of making available, so far as possible, efficient, nationwide communications service with adequate facilities at reasonable prices to all people of the United States. 47 U.S.C. § 151. The Commission has previously determined that the availability to consumers of competitive telecommunications services, equipment and facilities will facilitate the realization of this goal. In an effort to foster emerging competition, the Commission has required LECs to unbundle certain components of the local exchange network to ensure that potential providers are not placed at a competitive disadvantage and that consumers can reap the benefits of competitive pricing. This proceeding represents the next logical step in that evolutionary chain.

By way of illustration, the Commission has mandated that LECs unbundle customer premises equipment ("CPE") from transmission services in order to assure the availability of transmission service at reasonable rates and to provide consumers an unfettered choice of CPE. *See Computer and Communications Industry Ass'n v. F.C.C.*, 693 F.2d 198, 215 (D.C. Cir. 1982) (benefits of competition lost when CPE bundled with transmission service). Similarly, pursuant to its Open Network Architecture ("ONA") policies, the Commission has required the Bell Operating Companies ("BOCs") to unbundle certain basic service elements in order to make the local exchange networks as accessible to competitive providers of enhanced services as they are to the BOCs themselves. *See Filing and Review of Open Network Architecture Plan,* 4 FCC Rcd 1 (1988); *Amendment of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements For Open Network Architecture,* 6 FCC Rcd 4524 (1991). In

addition, the Commission has required that LECs unbundle inside wiring from basic transmission services to encourage competition in the provision, installation and maintenance of inside wiring. *National Association of Regulatory Utility Comm'rs v. F.C.C.*, 880 F.2d 422 (D.C. Cir. 1989).

With the emergence of competition in the local exchange market, the Commission again has the opportunity to take clear and affirmative action to foster the availability of consumer choice and alternatives to the monopoly service provider. A Commission policy that unbundled local loops should be made available to all state-authorized competitive local exchange carriers on a nondiscriminatory and cost-effective basis will further the fundamental objective of the Communications Act that all people of the United States have access to efficient, nationwide communications services at reasonable prices. To effectuate this policy, the Commission should promptly institute a rulemaking to address the overarching technical and pricing issues necessary to facilitate the entry of competitive local service providers. The federal standards will complement state initiatives undertaken to promote the development of competition in the local exchange market.

It is well understood that the local loop is used to originate and terminate all communications, both intrastate and interstate. Although unbundling of the local loop involves matters of both state and federal concern, the Commission clearly has jurisdiction over, and the authority to regulate charges for, the local network when it is used in connection with the origination and termination of interstate calls. *In the Matter of Petition for Emergency Relief and Declaratory Ruling filed by the BellSouth Corporation,* 7 FCC Rcd 1619, 1621 (1992). Thus, it is unassailable that the Commission possesses the requisite jurisdiction and authority to grant the specific relief MFS requests.

The local loop facility is perhaps the most essential component of all telecommunications services. The Commission can, and should, assert its jurisdiction to adopt uniform technical standards for interconnection to unbundled loop facilities, including consistent definitions of the unbundled loop functionalities. The local loop distribution network, which has been built over the course of more than 100 years with ratepayer funds, provides connections to almost 100 million locations. Because it is not economically or practically feasible to duplicate this ubiquitous telecommunications network, it is inconceivable that there will be any viable way for competitive local exchange carriers to serve most of the future telecommunications needs of the country without using the existing distribution network and remaining captive to the LECs' rates, terms and conditions for use of these bottleneck facilities.

The Commission has exclusive jurisdiction over all interstate and foreign communications by wire, including all instrumentalities, facilities, apparatus and services incidental to the transmission of such communications. 47 U.S.C. §§ 152(a), 153(a). In contrast, the Communications Act reserves to the states regulatory jurisdiction with respect to charges, classifications, practices and facilities for and in connection with intrastate communication service. 47 U.S.C. § 152(b)(1). Although local loops are physically intrastate, both the courts and the Commission have long recognized that, as a practical matter, it is not possible to restrict the use of local loops to either interstate or intrastate transmissions:

> [E]xchange plant, particularly subscriber stations and lines, is used commonly and indivisibly for all local and long distance telephone calls. There is no interstate message toll telephone service either offered or practically possible except over exchange plant used for both intrastate and interstate and foreign commerce.

North Carolina Utility Comm'n v. F.C.C., 537 F.2d 787, 791-792 (4th Cir.), *cert. denied*, 429 U.S. 1027 (1976), *quoting In the Matter of Telerent Leasing Corp.*, 45 FCC 2d 204, 215 (1974).

The Commission may regulate the subject matter and, if necessary, preempt conflicting state regulation where the interstate and intrastate components of regulation cannot be separated. *Louisiana Public Service Comm'n v. F.C.C.*, 476 U.S. 355, 375 n.4 (1986). In deference to the federal policy of preserving a customer's ability to interconnect with the public interstate network, the courts have consistently upheld the Commission's authority to preempt state regulation with respect to network interconnection policies where the interconnected facilities are used inextricably for both interstate and intrastate calls. *See e.g., North Carolina Utility Comm'n v. F.C.C.*, 537 F.2d at 793 (Commission has jurisdiction to determine what terminal equipment can safely and advantageously be interconnected with the interstate communications network and how that should be done); *Puerto Rico Telephone Co. v. F.C.C.*, 553 F.2d 694 (1st Cir. 1977) (Commission may preempt inconsistent state interconnection regulations for PBX equipment); *Public Utility Comm'n of Texas v. F.C.C.*, 886 F.2d 1325 (D.C. Cir. 1989) (upholding Commission preemption of state commission order prohibiting LEC from providing microwave network operator with additional interconnections to public switched network). Indeed, the Commission has held that it would be incapable of carrying out its statutory objectives if it had no authority over any facility that carries interstate calls but is physically located intrastate. *Filing and Review of Open Network Architecture Plan,* 4 FCC Rcd at 140-141.

MFS submits that the adoption of uniform technical standards for interconnection to unbundled loops will further the Commission's policy of promoting a telecommunications user's

right to interconnect freely with the public interstate network. Such standards will also facilitate the protection of the telephone network and ensure that unbundled loop facilities are made available to all service providers on a non-discriminatory basis. This is an important consideration because the interconnecting carriers will be competing for subscribers directly with the incumbent LECs. Because the loop inherently carries both interstate and intrastate calls, but is a single inseparable physical facility, the Commission has jurisdiction over these interconnection standards.

Pricing of the local loop, however, is capable of being separated between jurisdictions and in fact is separated, as described in Section I.D above. The Commission's jurisdiction over pricing is, therefore, limited to those charges that recover the interstate portion of loop costs, primarily the End User Common Line ("EUCL") and Carrier Common Line ("CCL") charges. The Commission must address how the interstate EUCL and CCL charges will be assessed and calculated for unbundled loops. Because local loops will be tariffed at the state level, there is significant potential for inconsistent treatment of these charges in a competitive environment absent Commission action. At the very least, a rulemaking is necessary to clarify the respective obligations of incumbent LECs and competitive carriers who purchase loops on an unbundled basis.

The pending New York Telephone and Rochester Telephone waiver petitions[24] illustrate clearly that the Commission's existing rules do not deal with these issues satisfactorily. Although MFS has filed comments supporting the New York Telephone waiver petition as an

[24] *See* note 11, *supra*.

interim solution, it would be preferable for the Commission to determine its policy on the pricing of unbundled loops through a comprehensive rulemaking rather than piecemeal waivers.[25] In Section IV.B, below, MFS proposes the adoption of rules concerning the applicability of interstate common line charges to unbundled loops.

B. The Public Interest Would be Furthered by Commission Adoption of Voluntary Standards for State Unbundled Loop Pricing And Cost Imputation

Although the Commission has no jurisdiction over the pricing of unbundled loops in state tariffs, it can provide policy leadership by adopting voluntary standards for pricing and cost imputation. If these standards are approved by state regulatory bodies and implemented by LECs, those carriers should be eligible for increased pricing flexibility under the Commission's price cap rules.

There are several advantages to such an approach. States would retain jurisdiction over pricing and imputation questions relating to the intrastate portion of the local loop. At the same time, however, the state regulatory bodies would be relieved of the administrative burden of resolving any economic feasibility issues to the extent that they approve the Commission's voluntary unbundling standards.

The voluntary standards would also create a strong incentive for LECs to offer unbundled loops at cost-based rates that would not preclude competition. This will diminish the likelihood

---

[25] However, MFS does *not* believe that the Commission should defer ruling on the New York and Rochester waiver petitions pending a comprehensive rulemaking. These two LECs are, at present, the only ones offering unbundled loops for use by competitors, and the Commission should do everything it can to facilitate these offerings by granting the requested waivers expeditiously. Of course, any such waiver would be subject to revision if and when new rules of general applicability are adopted. MFS notes that the Commission is scheduled to vote on the Rochester petition on the same day as the filing of this Petition for Rulemaking.

of protracted litigation over pricing and imputation issues at the state level and the delays inherent in such litigation.

The public will clearly benefit from the adoption of standards that will encourage LECs to offer unbundled loops at cost-based prices. The expanded choice of local service providers and options and the increased competition in the provision of IXC access services made possible by unbundled and cost-based access to the local loop will serve the public interest in much the same way that the expanded choice of alternative providers of long distance services, CPE, inside wiring and enhanced services has done.

The adoption of voluntary guidelines is supported by Commission precedent. In 1985, the Commission determined that it would no longer enforce several of its rules relating to cable television technical and operating requirements. Instead, the Commission converted the rules to voluntary guidelines and left to state and local regulatory authorities the decision as to how to use and administer the guidelines. *Review of the Technical and Operational Requirements of Part 76, Cable Television,* 102 FCC 2d 1372 (1985). More recently, the Commission defined broad policy objectives for administration of the North American Numbering Plan in its declaratory ruling on Ameritech's plan to relieve a shortage of telephone numbers within the 708 area code. *Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois,* IAD File No. 94-102, (released January 23, 1995). While acknowledging that the regulation of numbering resources implicates both federal and state interests, the Commission articulated general guidelines for number allocation that are designed to facilitate entry into the communications marketplace and promote the introduction of new technologies, the modernization of the telecommunication's infrastructure and the offering of new services to the public

through competition. MFS' proposed voluntary guidelines for the pricing of unbundled loops will achieve these same objectives.

IV. SUMMARY OF PROPOSED RULES

The following sections summarize the specific rules that MFS proposes for adoption by the Commission. MFS proposes that these rules apply to the same entities that are subject to the current expanded interconnection rules -- *i.e.*, all Tier 1 LECs other than members of the NECA common line pool.

The proposed rules would apply only in those LEC study areas where local exchange competition has been authorized by State law or regulation, and would permit interconnection to unbundled loops only by entities authorized under State law to provide such service. This restriction is made necessary by the fact that a "common line," by definition, is one that carries both interstate access and local exchange traffic, and the Commission has no authority to preempt State laws and regulations governing the provision of local exchange service.

A. Technical Standards for Loop Unbundling and Interconnection

Unlike equal access and other previous interconnection initiatives, loop unbundling will not require a significant development of new standards, hardware upgrades or software changes. In most cases, it will be in the best interest of all carriers if the incumbent LECs continue to use primarily the same technical practices that they are using today. Supporting interconnected services with minimal changes in the way loop facilities are provisioned and managed should simplify the implementation of those services. Moreover, the price of the unbundled services can be based upon known costs.

For these reasons, the logical point of interconnection is the same point where the incumbent LEC currently cross-connects loop facilities into existing switching equipment -- i.e., the serving wire center ("SWC"). The SWC is the point where all distribution and feeder facilities for an area come together. Competitive local exchange carriers would locate their own equipment at the SWC, either in space dedicated to the carrier or pursuant to a virtual collocation arrangement, consistent with the Commission's expanded interconnection rules. Because the competitive local exchange carrier's equipment would be connected at the same point as the LEC's existing switching equipment, a customer wishing to change carriers could be transferred without service interruption. Similarly, new customer services could be activated using much the same procedures that the incumbent LEC uses today.

Actual interconnection standards must be determined based on the incumbent LEC's existing network architecture. There are four different network architectures used in modern feeder and distribution systems.[26] The first consists of a copper wire pair for each telephone line from the customer location to the SWC. The second uses a set of multiplexers to put multiple telephone lines onto a transmission system from the SWC to some intermediate point such as a controlled environmental vault ("CEV") or the basement of an office building where service is then converted back into multiple wire pairs and extended to the customer. The third architecture takes advantage of a more efficient interface available on some digital switches that allows them to directly connect to digital transmission systems, eliminating the need for a SWC multiplexer. The fourth network architecture is very similar to the third; however, instead of

[26] These architectures are depicted in the illustrations in Appendix 2.

a far end pair-gain multiplexer, a remote switch module is placed at an intermediate point. These different architectures represent advances in loop technology, and each of the latter options was cost justified and deployed to save money over the traditional copper pair system.

Regardless of which network architecture an incumbent LEC uses, there is a practical, efficient and technically feasible method of supporting interconnection with multiple carriers. As demonstrated below, these forms of interconnection can be implemented with minimal changes to existing technical standards and procedures.

1. Traditional Copper Distribution Plant

The traditional copper distribution method has remained mostly unchanged since the advent of plastic-insulated cable. It consists of multi-pair cables that are spliced to other cables of decreasing cross section as they get farther from the SWC. (Appendix 2, Configuration A) Looking much like the branches of a tree extending to every location in the SWC's region, these cables provide a dedicated set of wires for each telephone line. The cables are typically located in the public way, inside conduit structures, directly buried in the ground or suspended between poles. When a customer requests telephone service at a particular location, personnel at the LEC's central office select an appropriate wire pair and cross-connect it to an analog switch port.

Connection to copper pairs represents by far the most common and easiest method of interconnection. Because the existing plant is designed to support cross-connection of loops to a switch located at the central office, it will also support a cross-connection to competitive local exchange carrier's transmission equipment located at the central office. The primary challenge associated with this form of interconnection is the development of procedures for transferring

existing service and installing new service in a non-discriminatory fashion. It is important that the same procedures, turn-up intervals and repair intervals apply to customers of interconnectors as apply to customers of the incumbent LEC.

2. Double-Ended Pair Gain

In this configuration (Appendix 2, Configuration B), a pair of multiplexers is used as a direct replacement for multiple wire pairs between two locations. The multiplexers are used either to reduce the number of wire pairs homing into the SWC or in conjunction with the deployment of fiber optic cables. The two multiplexers communicate with each other via digital T-1 transmission facilities. The low-speed side of each multiplexer is designed to emulate the same sort of interconnection that is made to a simple wire pair. Even though it may be digital, the switch is equipped with analog interfaces and cross-connected to the pair gain equipment as if it were being cross-connected to wire pairs. The far end multiplexer may be located in an office building, inside an underground CEV, or outdoors in a small above-ground equipment shelter. From that point, service is extended to the customer's premises over wire pairs.

Because the pair gain multiplexer located at the central office uses the same individual analog cross-connection per line that copper distribution uses, the interconnection standards should be the same. The multiplexers must be configured for the particular customer application and the competitive local exchange carrier must convey the application information to the LEC as part of the ordering process. It is anticipated that the interconnecting carrier would convey these ordering options for maintenance and planning purposes as a matter of course.

New York Telephone currently offers interconnection with both copper facilities and double-ended pair gain equipment. Thus, the technical feasibility of these interconnection options has been established.

3. Single-Ended Pair Gain

The single-ended pair gain architecture (Appendix 2, Configuration C) takes advantage of digital interface options available on some modern switches. The switch is able to perform all of the functions of the pair gain multiplexer normally located in the central office. By reducing the quantity of electronics required and the number of digital to analog conversions, this configuration is much more efficient than the double-ended pair gain. The T-1 facility that connects the local switch to the far end multiplexer uses a standard-based protocol, and several manufacturers make compatible equipment. The current standard, known by the Bellcore term TR-08, is being superseded by a new, more feature rich protocol known as TR-303.

Because the TR-08 specification was not designed to support more than one switching device, it may require additional equipment to facilitate the interconnection of multiple service providers. In some cases, the required equipment may already be installed to support special access circuits, or other switched services that are not supported by the TR-08 standard. In other cases, traditional wire pairs or double-ended pair gain devices may be available to provision a competitive local exchange carrier's service without significant reconfiguration. Equipment manufactured to the new TR-303 specifications will have many more options, including the ability to cross-connect telephone lines to more than one switch and the ability to support digital subscriber lines. Interconnection standards should not preclude these technological advances.

There are at least two options for interconnecting with the existing and future loop architectures using single-ended pair gain technology. The first option would be to provision services for competitive local exchange networks in exactly the same manner as they are currently provisioned by the incumbent LEC. To accomplish the interconnection, a multiplexer, or part of a larger multiplexing system, would be activated and dedicated to the competitive carrier's network. If the far end multiplexing location serves a large number of telephone lines, there will be several sets of multiplexers. Where the competitive carrier requires a significant number of loops, the various loops would simply be segregated within the existing multiplexers and one or more of the multiplexers would be dedicated to the competitive carrier's application. Where the competitive carrier requires relatively few loops and where there is no other provisioning option (such as copper pairs or double-ended pair equipment), additional equipment may be necessary at the multiplexing location. Because this additional equipment would be limited to one partially filled multiplexer, there would be no significant inefficiency over the existing network configuration.

The second option encompasses the additional provisioning alternatives that would become available as TR-08 equipment is replaced or supplemented with new TR-303 type equipment. The TR-303 equipment will have the ability to groom individual lines onto multiple switch connections much like the digital cross-connect system ("DCS") does for special access circuits today. In the interim, it is also feasible to do this sort of grooming in an external DCS. In many cases, the DCS is already present in the central office and, in some cases, is being used to groom special access services within existing TR-08 facilities. Although some of the DCS manufacturers support this sort of application, it is not widely used. If the use of the first

provisioning option results in a large number of partially filled multiplexers or if the deployment of TR-303 equipment is delayed, it may become more feasible to develop these capabilities in an external DCS.

A less desirable alternative for this type of interconnection would be to provision loop facilities on D-4 compatible multiplexers, rather than on TR-08 compatible systems. This alternative should only be considered for use in those situations where fill ratios are very low, and even then, only as a temporary solution until TR-303 time slot assignment functionality is available.

4. Remote Switch Used For Pair Gain

In this network architecture (Appendix 2, Configuration D), a remote switch module is deployed in lieu of a single-ended pair gain multiplexer. This system had the advantage of being able to route calls between far end subscribers without sending the call to the central office and back. The relatively high cost of the remote switch module, however, limits its application to areas where the line count is large. Unlike the single-ended pair gain scenario, the protocol used to communicate back to the switch is not standards-based. In other words, an AT&T remote switch module will only communicate with an AT&T switch, a Northern Telecom switch can only host a Northern Telecom remote, and so on. For this reason, the transmission facility does not lend itself to an industry-wide standard and it would not be practical for multiple carriers to use this facility.

Because remote switch modules are typically installed at locations with large numbers of telephone lines, it is likely that alternative provisioning systems would be available or easily installed. For example, it is likely that existing channel banks are located with the remote

switch in order to support special access circuits as described in Configuration C, Option 2. To the extent that remote switches have been deployed as pair gain devices, and there is no alternative provisioning method, additional multiplexing equipment will be required. As was the case with the single-ended pair gain architecture, the preferred provisioning method would be the installation of a dedicated multiplexer for used by competitive local exchange carriers.

5. Uniform Standards

Uniform standards should be developed to facilitate efficient interconnection. These standards should describe the exact interface options to be used at the customer end of the loop (i.e., two wire or four wire), termination impedance, signalling options, etc. The interface between the incumbent LEC and the competitive local exchange carrier should also be standardized. These interface options will include copper wire pairs, D-4 formatted T-1, TR-08 formatted T-1 or future formats, such as TR-303.

Ameritech has developed draft technical specifications, interfaces and parameters for the provision and interconnection of unbundled analog and digital loops. The specifications are identified as AM TR-TMO-000 122 and AM TR-TMO-000 123 in Ameritech's Customers First tariff filing in Illinois. These specifications, which are based on industry engineering standards, could serve as the starting point for formulating uniform interconnection standards.

The Commission should also promulgate uniform ordering and installation procedures. At a minimum, these procedures should define acceptable intervals for service activation and maintenance, how customers will be transferred from one carrier to another, and how new facilities are to be ordered.